MCAS Stakeholder meeting

Use case, requirements review.

A. Baranovski

What we want to accomplish today?

- Present the project
  - System definition
  - Use case overview
  - Requirements, support model and demo prototype
- Gauge interest in continuing this activity
- Understand the roadmap for making further progress
  - Stakeholder communication, quality control, deliverables

Potential stakeholders

- CMS group
  - Jon Bakken, Ian Fisk
- FermiGrid
  - Keith Chadwick
- REX Operations
  - Margaret Votava, Adam Lyon
- Minos
  - Arthur Kreymer
- D0
  - Joel Snow, Mike Diesburg
- CDF
  - Margaret Votava.
- Storage/dCache
  - Stanley Naymola, Gene Oleynik

System definition

- Provide application framework to address common issues with informational portals
  - Display
    - Support for several types of rendering engines based on web standards.
  - Business processing
    - Multi data source aggregation, data summarization
  - Data source access and format conversion
    - Example: html scraping as the beginning. (logs,dbs, email possible)
- Data - information describing state of a system

Some background to get on the same page

- People write monitoring apps all the time
- An idea is to factor out presentation and business analysis from available monitoring solutions into a uniform model that we control
- Establish a framework based on published standards, which can help re-organize disparate monitoring applications

Use cases. Summarization

- Combine several criteria in one view
  - Fetch data from places that must contribute to a report
  - Apply a function to an array of that data
    - Can be as simple as an identity function
    - Data can come from segregated sources
  - Map the output of the function into one of the standardized display

Use cases. Content Aggregation

- Several monitoring pages that are not dense enough to present the whole picture.
- Each page is uniquely structured
- Increase informational density of a report based on the above presentation resources.
  - Good to be able to create categories that allow navigation between such reports.

Use cases. Drill down views

- Drill down views can capture the decision tree of the troubleshooting process.
  - Using context-sensitive display we analyze several monitoring pages
  - We use fixed hierarchy of reports to render increasing level of details.
  - Commonly implemented by embedding links which point to various (often disorganized) web pages

Use cases. Warehouse

- A Common need is to temporarily store data that goes into the report (e.g. for a “value vs. time” plot)
- We also want to make that data accessible from many different places (where we can produce that report)
- Lightweight storage for processing and feed of the display.
  - Not an accounting system.
- User friendly

MCAS requirements in a nutshell :

- Fetch and store data from available sources
- Structure that data for refactoring.
- Make set of standard interfaces to engage rendering primitives.
- Reuse existing standards/technologies whenever possible (e.g. Portlet specifications)
  - invoke plotting engine.
- Publish results - images for example.
- Organize and host unrelated content on the web.

How we plan to do it

- Use common format for publishing data
- Use work flow engine over the data warehouse to setup periodic data polling and data transformations
- Provide interface to rendering engines (using results from prev. step)
- Provide configurable environment for hosting dense visual content
- Support JSR128 portlet specification to export that content to other web hosting environments.

Existing portals (feasibility study)

- http://mcas-int.fnal.gov:8080/portal/portal/cms
  - Serving CMS dCache
- http://mcas-int.fnal.gov:8080/portal/portal/dzero
  - Dzero MC production portal
- You can create new pages, place and configure new widgets.
  - Create data source by publishing information directly or design data processing workflow with help of integration expert.

What we have now

- We've implemented several “dynamic report” pages using
  - XML for formatting scraped web data sources
  - Xaware data transformation workflow
  - Jboss for hosting visual content
    - using portals and portlets
  - Rendering engines: Table view, Graph view,Health display,Time series
- These reports are based on input from Jon Bakken and Joel Snow
  - CMS dCache and D0 MC production

Support model

- Centralized system running core framework applications
  - Jboss, workflow, warehouse
- Administrative interface to add,remove data transformations that plug into the framework
  - Transformations can be developed by either users or whoever supports the solution (upon request)
- Administrative interface to create and manage particular portal instance

Support model, continued

- Open questions
  - Encourage users maintain their resources or post content according to the MCAS templates
  - How this project relates to other competitive systems out there: SAS, Oracle enterprise data integration.
    - Partial answer. We are community driven project using open source technologies.
    - But, competitive systems will be investigated if appropriate
  - Operational responsibilities within CD

What's next

- Need to more deeply understanding the stakeholder requirements
- The scope for the next phase of the project needs to be determined before things can happen.
  - what are people interested in?
    - what kind of data will need to be input?
    - what tools for data display are desired ?
    - what information systems need to be re-factored into new information portals ?

Staff (FY09)

- Similar effort in FY10
- Ted 30%
- Gabriele 30%
- Parag 25%
- Andrew 40%
- Tanya consultation
- Dave 10%